

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	18	(US-20040141031-\$ or US-20050140747-\$ or US-20040145621-\$).did. or (US-6305792-\$ or US-5940096-\$ or US-4422082-\$ or US-6039438-\$ or US-5853861-\$ or US-4786288-\$ or US-4716423-\$ or US-4550326-\$ or US-4413268-\$ or US-4728392-\$ or US-6132028-\$ or US-4962391-\$ or US-4021252-\$ or US-6527369-\$).did. or (JP-02004515-\$).did.	US-PGPUB; USPAT; JPO	OR	ON	2006/03/06 07:58
L2	3	"4422082".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 07:54
L3	1	1982-F7677E.NRAN.	DERWENT	OR	ON	2006/03/06 07:55
L4	5146	347/22-35,47.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 08:53
L5	44	((nozzle oriface) adj (plate substrate)) same ((channel recess trough) with (wick\$3 with (liquid ink fluid)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 08:56
L6	14	4 and 5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 08:55
L7	3647	((nozzle oriface) adj (plate substrate)) same (channel recess trough)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 08:57
L8	269	4 and 7	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 08:57
L9	2174	((nozzle oriface) adj (plate substrate)) with (channel recess trough)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:19
L10	147	4 and 9	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 08:57
L11	63	10 and (capillary wick\$3 vacuum)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 08:58
L12	11	("4157935"   "4246076"   "4312009"   "4317124"   "4450455"   "4502054"   "4587534"   "4593296"   "4640382"   "4644126"   "4694548").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/06 09:00
L13	34	("5189437").URPN.	USPAT	OR	ON	2006/03/06 09:02
L14	56	(vacuum and wick\$3) near3 (channel recess groove)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:05

## EAST Search History

L15	65241	"347"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:04
L16	65241	15 and 15	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:04
L17	6	14 and 15	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:04
L18	6	(vacuum same wick\$3) with ((channel recess groove) same (maintenance clean\$3))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:05
L19	4	15 and 18	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:06
L20	718	347/30.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:06
L21	160	347/31.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:07
L22	373	347/32.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:07
L23	3	\20 and 21 and 22	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:07
L24	3	20 and 21 and 22	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:07
L25	3	("5055856"   "5867187"   "5898444").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/06 10:16
L26	1	25 and ((vacuum suction) and wip\$3)	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/06 10:17
L27	5	("3787148"   "4363609"   "5260724"   "5309180"   "5517219").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/06 10:18

## EAST Search History

L28	1172	((nozzle orifice) adj (plate substrate)) with (silicon)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:21
L29	768	15 and 28	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:19
L30	1446	347/47.cds.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:20
L31	87	28 and 30	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:20
L32	194	((nozzle orifice) adj (plate substrate)) with (silicon)) same (advantage benefit improvement superior)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:22
L33	14	30 and 32	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/06 10:22
S1	8	("6582059" "6536874" "6439695" "6264307" "6235212" "6041600" "4613875" "3747120").pn.	USPAT	OR	ON	2005/06/27 07:18
S2	316	((nozzle planar) with (substrate plate layer)) same ((channel guide groove direct) with (clean maintenance))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:45
S3	1420	347/22,33,36,4047.cds.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:44
S4	5	S2 and S3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:44
S5	9921	((nozzle planar) with (substrate plate layer)) same ((ink liquid fluid) near8 (channel guide groove direct))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:50
S6	152	S3 and S5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:46

## EAST Search History

S7	31688	(nozzle with (substrate plate layer)) same (geometr\$2 shape recess channel groove)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:51
S8	188	S3 and S7	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:51
S9	328952	(ink fluid liquid) with (spray contaminat\$3 excess\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:52
S10	117	S8 and S9	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:54
S11	3522	347/47,54,56,71.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:54
S12	1179	S7 and S11	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 07:55
S13	175	S9 and S12	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 08:12
S14	510	((nozzle orifice) with (geometr\$2 shape recess)) same capillary	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 08:14
S15	17	S11 and S14	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 08:14
S16	6	("3466659"   "3774231"   "3887928"   "3958249"   "4349830").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/27 09:15
S17	12	("4413268").URPN.	USPAT	OR	ON	2005/06/27 09:15
S18	6	("4059480"   "4066491"   "4276335"   "4403234"   "4413268"   "4549188").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/27 09:18
S19	34	("4728392").URPN.	USPAT	OR	ON	2005/06/27 10:37
S20	1454	347/100,106.cds.	USPAT	OR	ON	2005/06/27 10:39
S21	652	(viscosity same tension) and S20	USPAT	OR	ON	2005/06/27 10:39
S22	4	("50" adj dynes) and ("40" adj centipoise)	USPAT	OR	ON	2005/06/27 10:38
S23	578	(viscosity with tension) and S20	USPAT	OR	ON	2005/06/27 10:39
S24	302	347/106.ccls.	USPAT	OR	ON	2005/06/27 10:39
S25	66	(viscosity same tension) and S24	USPAT	OR	ON	2005/06/27 10:44
S26	514	(depth height) with ((nozzle orifice) same (geometr\$2 dimension))	USPAT	OR	ON	2005/06/27 10:45

## EAST Search History

S27	3522	347/47,54,56,71.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 10:45
S28	15	S27 and S26	USPAT	OR	ON	2005/06/27 10:45
S29	514	(depth height) with ((nozzle orifice) same (geometr\$2 dimension))	USPAT	OR	ON	2005/06/27 11:49
S30	3522	347/47,54,56,71.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/27 11:49
S31	15	S30 and S29	USPAT	OR	ON	2005/06/27 11:49
S32	302	347/106.ccls.	USPAT	OR	ON	2005/06/27 12:19
S33	66	(viscosity same tension) and S32	USPAT	OR	ON	2005/06/27 12:19
S34	23	S33 and piezoelectric	USPAT	OR	ON	2005/06/27 12:19
S35	3	((("4,358,781") or ("4,459,601") or ("5,757,391"))).PN.	USPAT	OR	OFF	2006/03/03 10:22
S36	0	("58283946132028").PN.	USPAT	OR	OFF	2006/03/03 10:23
S37	2	((("5828394") or ("6132028"))).PN.	USPAT	OR	OFF	2006/03/03 10:23
S38	4	("4413268"   "5487483"   "5595785"   "5786832").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 10:25
S39	149	(capillary with (channel groove conduit)) same (nozzle near4 plate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:33
S40	900	347/22	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:26
S41	1827	347/47	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:32
S42	551	347/45	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:26
S43	18	S39 and S40	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:32
S44	2	("3776461"   "5381169").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 10:27
S45	15	S39 and S41	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:28
S46	10	("4542389"   "4550326"   "4578687"   "4646110"   "4914562"   "4914736"   "4980703"   "4994825"   "5198834"   "5374948").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 10:29

## EAST Search History

S47	4	S39 and S42	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:32
S48	10319	(channel groove conduit) same (nozzle near4 plate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:33
S49	5707	(channel groove conduit) with (nozzle near4 plate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:35
S50	300	S41 and S48	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:34
S51	233	S41 and S49	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:34
S52	2573	(channel groove conduit) with (nozzle adj plate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:35
S53	65241	"347"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:35
S54	1185	S52 and S53	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:35
S55	2	(channel groove conduit) with (maintenance) with (nozzle adj plate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:36
S56	2	((channel groove conduit) with maintenance) with (nozzle adj plate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:36
S57	4	((channel groove conduit) with maintenance) same(nozzle adj plate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:38
S58	104	((channel groove conduit) with capillary) same(nozzle adj plate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:38

## EAST Search History

S59	82	S53 and S58	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 10:38
S60	1446	347/47.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 11:03
S61	636	347/47.ccls.	USPAT	OR	ON	2006/03/03 11:04
S62	554	S61 not silverbrook.in.	USPAT	OR	ON	2006/03/03 12:31
S63	636	347/47.ccls.	USPAT	OR	ON	2006/03/03 12:31
S64	184	(S63 not silverbrook.in.) and (nozzle with shape)	USPAT	OR	ON	2006/03/03 12:32
S65	9	("3167489"   "3329588"   "3461045"   "3607674"   "3704175").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 12:36
S66	4	("4290857").URPN.	USPAT	OR	ON	2006/03/03 12:36
S67	6	("4255237"   "4290857"   "4417946"   "4422905"   "4513298"   "4558333").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 12:38
S68	31	("4716423").URPN.	USPAT	OR	ON	2006/03/03 12:39
S69	11	("4368476"   "4694308"   "4716423"   "4723129"   "4740796"   "5262802"   "5300959"   "5443687"   "5697144"   "6402304"   "6523938").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 12:40
S70	2	("4513298"   "4558333").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 12:43
S71	27	("4694308").URPN.	USPAT	OR	ON	2006/03/03 12:43
S72	12	("4413268").URPN.	USPAT	OR	ON	2006/03/03 12:51
S73	6	("3466659"   "3774231"   "3887928"   "3958249"   "4349830").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 13:15
S74	937	347/44	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 13:16
S75	551	347/45	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 13:15
S76	1827	347/47	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 13:15
S77	104	S74 and S75 and S76	US-PGPUB; USPAT; USOCR	OR	ON	2006/03/03 13:16
S78	937	347/44	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:16
S79	551	347/45	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:16
S80	1827	347/47	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:16

## EAST Search History

S81	104	S78 and S79 and S80	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:19
S82	497	347/45.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:37
S83	6865	((nozzle oriface) near3 (plate substrate layer)) with (conduit channel recess groove)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:38
S84	65241	"347"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:38
S85	2406	S83 and S84	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:38
S86	2988	((nozzle oriface) adj (plate substrate layer)) with (conduit channel recess groove)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:41
S87	1324	S84 and S86	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:39
S88	352	((nozzle oriface) adj (plate substrate layer)) with (conduit channel recess groove)) same (shape geometry)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:41
S89	146	S84 and S88	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 13:41
S90	24	(US-20030081069-\$ or US-20050140747-\$ or US-20040141031-\$ or US-20040145621-\$).did. or (US-4550326-\$ or US-6132028-\$ or US-4413268-\$ or US-5790151-\$ or US-4962391-\$ or US-5940096-\$ or US-4290857-\$ or US-4716423-\$ or US-4422082-\$ or US-6305792-\$ or US-6039438-\$ or US-5853861-\$ or US-6536879-\$ or US-4021252-\$ or US-6527369-\$ or US-6685301-\$ or US-4786288-\$ or US-4728392-\$).did. or (JP-02004515-\$ or JP-61287756-\$).did.	US-PGPUB; USPAT; JPO	OR	ON	2006/03/03 13:54
S91	481	347/67	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 14:14
S92	15625	nozzle adj plate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 14:14



## EAST Search History

S93	127	S91 and S92	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 14:14
S94	514	(nozzle adj plate) with specific\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 14:19
S95	256	S84 and S94	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 14:15
S96	215	(nozzle adj plate) same ((surround\$3 encompass\$3) with (channel groove moat recess))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 14:20
S97	261	((nozzle oriface) adj (substrate plate)) same ((surround\$3 encompass\$3) with (channel groove moat recess))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/03 14:21